

THE MAGAZINE

# QUANTA

Vol. 30 Iss. 6

QL USERS AND TINKERERS ASSOCIATION

December 2013 / January 2014 Issue

Is the QL approach the right one for non skeuomorphism?

We ask the question, Is 'cloud computing' possible on the QL?

Just how accurate is a FOR NEXT loop?

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30  
years

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QLABORATING SINCE 1984

## Information on the Association

Membership of QUANTA, the independent QL user group, is by annual subscription. The Membership Secretary can supply full details. Copies of the association's constitution & annual accounts are available from the Secretary. There is an extensive software library and active national subgroups. Details are given in the Member's Guide and in this magazine.

### QUANTA Committee - 2013/2014

Chairman: Sarah D. Gilpin 181, Urmston Lane, Stretford, Manchester. M32 9EH  
Email: [chairman@quanta.org.uk](mailto:chairman@quanta.org.uk)  
Tel: 0161 865 2872

Secretary: Alison Southern 40, Distaff Road, Poynton, Cheshire. SK12 1HN  
Email: [secretary@quanta.org.uk](mailto:secretary@quanta.org.uk)  
Tel: 01625 850067

Treasurer & Membership Secretary: John Gilpin 181, Urmston Lane, Stretford, Manchester. M32 9EH  
Email: [treasurer@quanta.org.uk](mailto:treasurer@quanta.org.uk)  
Email: [membership@quanta.org.uk](mailto:membership@quanta.org.uk)  
Tel: 0161 865 2872

Magazine Editor: Lee Privett. 251 Central Avenue, Southend on Sea, Essex. SS2 4ED.  
Email: [editor@quanta.org.uk](mailto:editor@quanta.org.uk)  
Mobile: 07985 513 234

Librarian: David Buckley 136, Denton Lane, Chadderton, Oldham. OL9 8PS  
Email: [librarian@quanta.org.uk](mailto:librarian@quanta.org.uk)  
Tel: 0161 622 1600

Helpline & News Editor: Dilwyn Jones 22 Erw Las, Coetmor New Road, Bethesda, Gwynedd. LL57 3NN  
Email: [helpline@quanta.org.uk](mailto:helpline@quanta.org.uk)  
Email: [news@quanta.org.uk](mailto:news@quanta.org.uk)  
Tel: 01248 601599

Web Administrator: Keith Dunbar 44, Dalton Avenue, Stretford, Manchester. M32 9TP  
Email: [webadmin@quanta.org.uk](mailto:webadmin@quanta.org.uk)  
Mobile: 07789 483 800

Back Issues Requests: Basil Lee 31 Fairdale Gardens, London. SW15 6JW  
Email: [backissues@quanta.org.uk](mailto:backissues@quanta.org.uk)  
Tel: 0208 789 1976

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## CONTENTS

COPY DATE .....	(FOR THE NEXT ISSUE) .....	3
EDITORIAL .....	LEE PRIVETT .....	4
QUANTA NEWS .....	DILWYN JONES .....	5
QUO VADIS DESIGN .....	ADVERTISEMENT .....	8
RWAP SOFTWARE .....	ADVERTISEMENT .....	16
CHAIRMAN'S NOTES.....	SARAH GILPIN .....	19
NEXT ISSUE .....	LEE PRIVETT .....	22
PROJECTS .....	IAN BURKINSHAW .....	23
JOCHEN MERZ SOFTWARE.....	ADVERTISEMENT .....	24
SYNCHRONISING .....	DILWYN JONES .....	27
(RE)TURNING TO THE SINCLAIR QL.....	SIMON CARR .....	35
ACCURATE LOOPING .....	STEVE POOLE .....	40
RWAP MEMBRANES .....	ADVERTISEMENT .....	40
HELPLINE .....	DILWYN JONES .....	43
WIMPS .....	LEE PRIVETT .....	47
SUBGROUPS .....	INFORMATION .....	50
QL FORUM .....	ADVERTISEMENT .....	52

**COPY DATE for FEB/MAR 2014 ISSUE is: 5th FEB 2014**

**Please ensure that your copy reaches the editor on or before that date. Copy on Paper, Magnetic Media or by Email. Text & listings are preferred in ASCII format as text files, Microsoft™ Word Documents or in QL Quill formatted files. All graphic submissions in as higher resolution as possible, preferably in PNG format, other forms of submission can also be accepted, please contact the Editor for details.**

**All Contributions are Welcome**  
**Copy by Email to - [editor@quanta.org.uk](mailto:editor@quanta.org.uk)**

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**Y**ou will note a couple of new names in the list of contributors this issue, you will also note a couple of regular pages missing. This was primarily to squeeze in the copy for the edition, but also to reflect some minor changes to the magazine. This does not mean we don't need any more articles we do!

Like past issues, all contributions are welcome, keep them coming, but just as important, please feedback to us, whether positive or negative. Its not just the QUANTA committee or indeed myself that appreciate the comments, but especially new contributors, for them to gauge whether there is any need for their articles and to continue to write.

Amongst the QL community, if you know where to look, there have been several attempts to update the QL storage system. It might be a feasible project now, but I am not counting chickens just yet, however a future issue may contain that very significant prospect. Speaking of counting chickens, an expected move in the new year and I may inherit a few, 17 in fact.

But the storage system is one thing using common current technology, what about future inspiration? The move by many industries is towards cloud computing, store your life in digital form in a place held, controlled, managed and charged by somebody else. When it was first mooted a few years ago I was sceptical, however I have succumbed partly. It's a cultural thing as well, I no longer shudder at not having my music on CD, that was down to one man. So is cloud computing possible on the QL?

Ed.

If you have QL-related news items that you'd like us to include on this page, please get in touch with News Editor - Dilwyn Jones at [news@quanta.org.uk](mailto:news@quanta.org.uk)

### SMSQ/E V3.17

Wolfgang Lernerz writes: "SMSQE 3.17 is out - it only corrects the bug when moving a pulled down window with transparency."

To update your SMSQ/E just visit Wolfgang's SMSQ/E page at: [www.wlernerz.com/smsqe](http://www.wlernerz.com/smsqe)

From this page, you can download a 1.2MB zipped file containing binaries of the various versions of SMSQ/E for Atari, Aurora, Gold Card, Q40, QXLand SMSQmulator. The zip file also contains various text files describing changes in the various versions of SMSQ/E, and some help regarding recompiling SMSQ/E if you wish to tinker with the sources.



*The official SMSQ/E site*

## SMSQmulator Latest

SMSQmulator 1.22 is out - it contains several bugfixes (and comes with smsqe 3.17). There's a list of changes and bug fixes on the download site. SMSQmulator is, of course, the QL emulator for Java systems. You need Java version 6 or 7 on your system to run SMSQmulator, although this can be on various operating system platforms such as Windows or Linux.

Download SMSQmulator from:

[www.wlenerz.com/SMSQmulator](http://www.wlenerz.com/SMSQmulator)



*SMSQmulator website*

## How To Repair Microdrive Cartridges

A user on QL Forum (Saltor66 – Salvatore Lasorella) has produced a video showing how to use liquid glue to consolidate the little felt pad on deteriorating Microdrive cartridges, to help stop it falling off its mounting and contaminating the insides of the cartridge with little bits of debris.

This helps to extend the life of a cartridge long enough for you to have a chance to recover the contents. The method applies equally to Spectrum and QL Microdrive cartridges. The page is in Italian and English:

<http://apuliaretrocomputing.wordpress.com/2013/10/20/come-riparare-le-cartucce-per-zx-microdrive/>



*The video showing how to repair Microdrive felt pads*

## Rights to QDOS in the USA

In a message to QL Forum members on October 26th 2013, Rich Mellor wrote:

“Paul Holmgren and Frank Davis who own the US rights to QDOS

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Welcome

Quo Vadis Design sells software for the Sinclair Quantum 2 map computer (QL) and variants including a new OS called SMSQ.

The QL is a computer in its 25th year Anniversary.



News

- QVD QL News Blog - keep up to date  
[News Blog](#)  
04/10/2009
- Quo Vadis Design Website Launched  
06/06/2008

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Bruce@ql-qvd.com

Quo Vadis Design  
38 Derham Gardens  
Upminster  
RM14 3HA  
UK

Tel: +44 (0)20 71930539  
Fax: +44 (0)870 0568755

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THE NEW YEAR**

Check the QL News Blog on  
our website for updates.  
[www.ql-qvd.com/blog](http://www.ql-qvd.com/blog)



Subscriptions taken online



have now confirmed that they are willing for QDOS to be distributed freely with emulators in the USA and Canada. There is a minor proviso on that, in that Paul / Frank would like to be kept advised of any projects which are developed using QDOS and sent a copy."

Although this was already widely taken to be the case, this has now confirmed and settled any doubts on this issue.

### **Domesdos, Not Domestos**

*This is a contribution from Urs König to the ql-users mailing list, back in late October this year, as the 30<sup>th</sup> anniversary of QDOS approached.*

Domesdos was the working title of the operation system for the Sinclair ZX83, which eventually became QDOS for the Sinclair QL. In a CONFIDENTIAL (at that time) document dated 26 October 1983 (hey, that's today 30 years ago), Tony Tebby wrote: "The changes from Version 0.05 are mostly in the internal organisation.

These reflect the change in emphasis from a small machine to a 128Kbyte minimum configuration, a high probability that a 512Kbyte expansion will be available at launch, a hard disk will be available soon after, and the machine is a flagship of a new line."

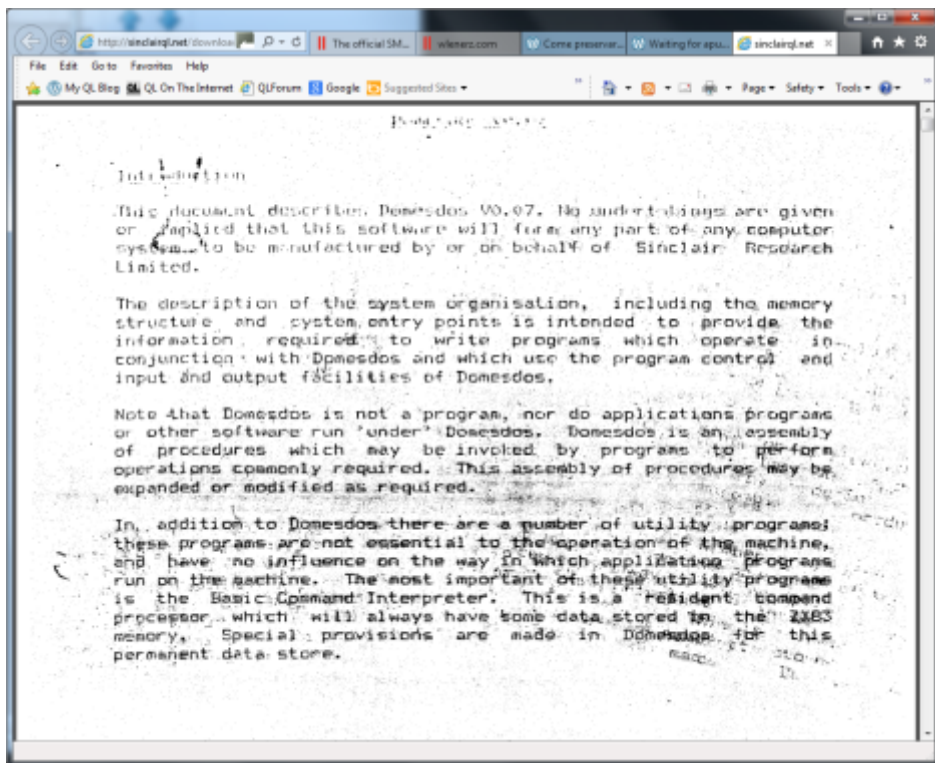
Decades later, back in 2009, TT wrote in a series of articles called "25 years" in the QL Today magazine: "In a fit of hubris over this "design for reliability" approach, the new operating system was called Domesdos (a home {domestic} DOS, even though it was designed for business use and it was a ROM operating system and not a disk operating system) after the slogan for a brand of bleach "Domestos" which "kills 99% of all known germs (bugs)."

Even 30 years later no single operating system has proved to be bug free.

Time to dig out Domes\*os... ;-)

Access the PDF of the 1983 Domesdos documentation:

<http://tinyurl.com/prsaafh>



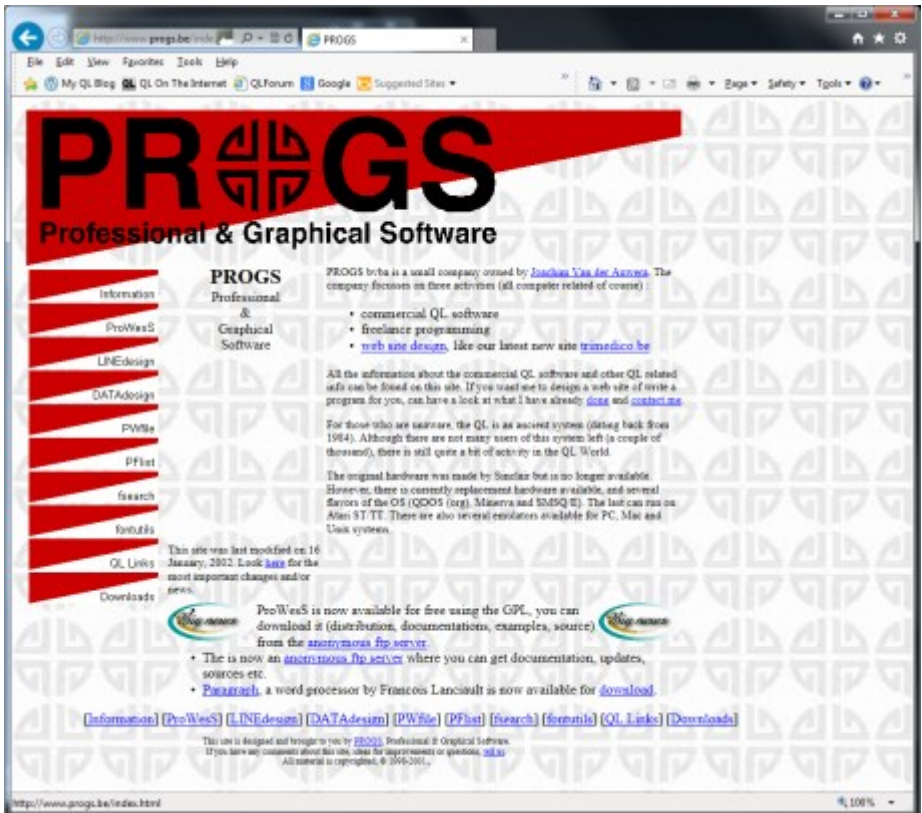
Scan of first page of "Domesdos" document

*Note: this is a scanned document of about 5MB in size, and of slightly poor quality in places although still quite readable. It is a scanned version of one of the very first documents issued to QL software and hardware developers. Much has changed since then, but it's still interesting to see where the operating system was at in those early days! [News Editor]*

## PROGS Software

Rich Mellor has managed to get confirmation from Joachim van der Auwera of PROGS in Belgium that the PROGS range of QL software (all of it!) is now open source and freely available.

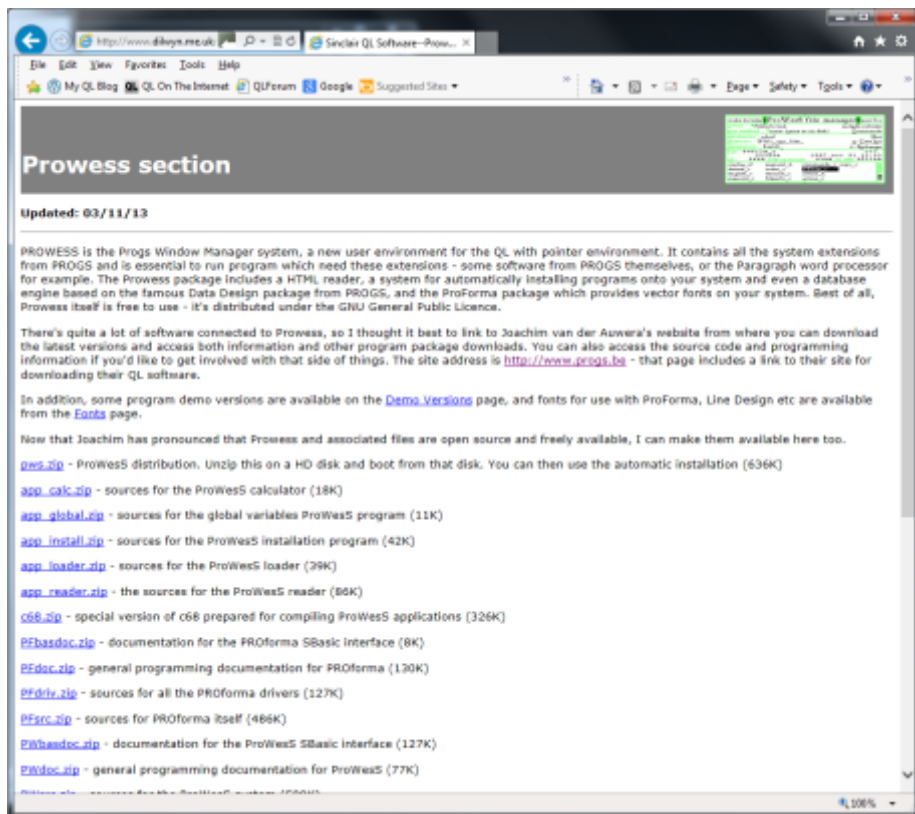
Most of it is available to download from the PROGS website at <http://www.progs.be/> - to get to the QL software, just scroll down to the bottom of the page and click on the link where it says "PROGS used to be known for Sinclair QL work. This information is now (very) outdated, it is still available here."



The PROGS QL web page

The programs are mostly also available from the Prowess section of the Dilwyn Jones QL website at:

<http://www.dilwyn.me.uk/prowess/index.html>



*Dilwyn Jones Prowess page*

We are still missing the following ProWeSs bits:

Fsearch

PWFile

PWList

PWSBasic

Although there are more programs to download on the PROGS website - these seem to be the sources, so need re-compiling.

## QUANTA Magazine

ProWesS is the PROGS Windowing System, which in its time was a new window manager, which used a system called PROforma for all its drawing, resulting in a resolution and colour independent windowing system. One of the major applications for PROforma at the time was Line Design, a vector drawing and DTP system for the QL.

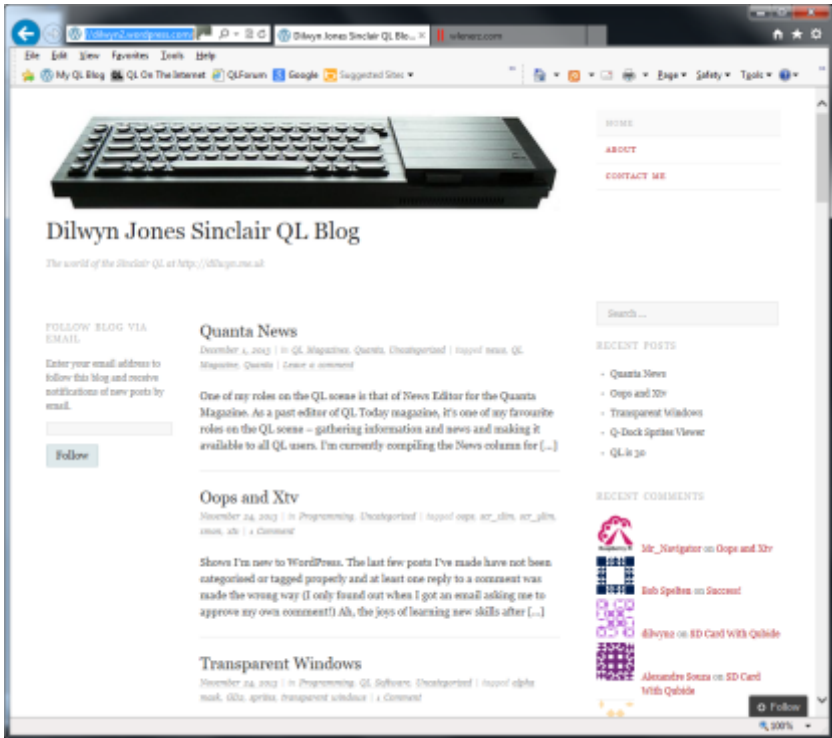
### Dilwyn Jones QL Blog

As if inflicting his writings on you in QUANTA magazine and everywhere else was not enough, Dilwyn Jones has now started a QL blog. A blog is a kind of online diary, a day to day description of a person's activities in relation to a hobby or business, for example. In this case, it's all QL-related.

You can subscribe to the blog to follow it so that you receive notifications of new posts by email, simply by supplying your email address and clicking on the Follow button on the left of its main page. This is not a commercial thing at all, your email address is only used for the Wordpress system to send you the blog emails (well, government spying systems apart, I suppose).

At the time of writing, posted subjects included topics as diverse as transparent windows, latest on the Q-Dock program, SD cards and Compact Flash cards with Qubide.

Visit the blog at <http://dilwyn2.wordpress.com> and see what you think, if you like it, subscribe and receive notifications of the posts by email.



*Dilwyn Jones QL Blog*

## Q-Dock

The latest on this long overdue software dock can be seen on my QL blog at <http://dilwyn2.wordpress.com/> . The software will include Q-Dock itself, plus Q-Bar (an autohide taskbar and start menu for SMSQ systems) and SPRV, a sprite viewer program which can either view single sprites, or has a tiled view mode allowing you to view all sprites in a given directory.

Some 200 dock graphics have been created or converted, while some 5000 sprite graphics have been created or converted for use as icons. Most of these are freeware or PD graphics and will be available to download free of charge from my website, while the Q-

Dock program itself will be available to buy from Bruce Nicholls' Quo Vadis Design site.

Q-Dock makes extensive use of transparent windows and alpha-mask sprites, becoming one of the first QL programs to use 'see-through' window effects, making best use of the graphics features built into the GD2 'colour drivers'.

Once again I have to apologise for the delays in releasing this program, my personal circumstances have been less than kind over the last year or so due to my partner's ill health (hi Ann!), although I've been slowly grafting away getting the software to the highest standard I can and making sure it has more than enough graphics at launch!



*The sprite viewer in the background, overlaid with a semi-transparent Q-Dock.*



*The Q-Bar taskbar system at the bottom of the screen (can work at any of the four edges of the screen).*

# RWAP Software

We have been working hard to safeguard the future of the Sinclair QL through creating an online QL Wiki backed by a repository of QL titles.

The QL Wiki enables people to see what software and hardware was produced for the Sinclair QL. The repository enables people to purchase working copies when their microdrive cartridges fail, or they move onto disks or emulators. Where we can, we obtain permission from the copyright holders to re-release items on the market.

This has enabled us to bring some of the titles back to the market as well as re-ignite interest in the Sinclair QL and its emulators.

Old favourites brought back to life include:

E.V.A., Vroom  
Black Knight, Double Block  
Jungle Eddi, The Lost Pharaoh  
Pengi, the Lonely Joker  
Microdeal's Flight Simulator, QL Hopper, The King,  
Night Nurse and Cuthbert in Space  
Mortville Manor, Darkside of the Moon (£10)

We still retain our existing catalogue, including:

Open Golf, Return to Eden,  
Stone Raider II, The Prawn,  
Hoverzone, Lost Kingdom of Zkul,  
Deathstrike, Horrorday,  
Flightdeck and QWord

All games are available on disk or for use with Q-emuLator on the PC **from ONLY £5 each**

Microdrive versions also available - from £10 each.  
*Memory / system limits may apply - please check before ordering.*

Visit the QL Wiki for more details on software, books and hardware for the Sinclair QL:

[www.rwapadventures.com/ql\\_wiki](http://www.rwapadventures.com/ql_wiki)

**RWAP Software**

3 Dale View Court, Fulford, Stoke-on-Trent  
Staffordshire ST11 9BA

Tel: 01782 398143

Email: [rich@rwapservices.co.uk](mailto:rich@rwapservices.co.uk)

Website:

[www.rwapsoftware.co.uk](http://www.rwapsoftware.co.uk) or [www.sellmyretro.com](http://www.sellmyretro.com)



Vroom by Pyramide



E.V.A by Westwey



Mortville Manor by Pyramide



Double Block by Francois Lancaut



Night Nurse by Microdeal



## uQLx Update

On 17<sup>th</sup> November, Peter Graf wrote:

“Re: QL Emulation • UQLX with BDI / QL-SD support

I should have eliminated the last remaining bugs today, so UQLX is now the second QL emulator, after Qemulator, which can handle QL-SD filesystem images.

I have no idea when Richard [Zidlicky] will release it. If someone already needs the feature, please feel free to contact me by personal email.

The trick is that the emulator just implements simple "Block Device Image" (BDI) support. Which are a few registers, allowing the QL side to access the image file on the PC. The real driver is then running native.

It is essentially the same driver as the one on the real QL, minus the FAT32, SDHC and hardware specific portions.”

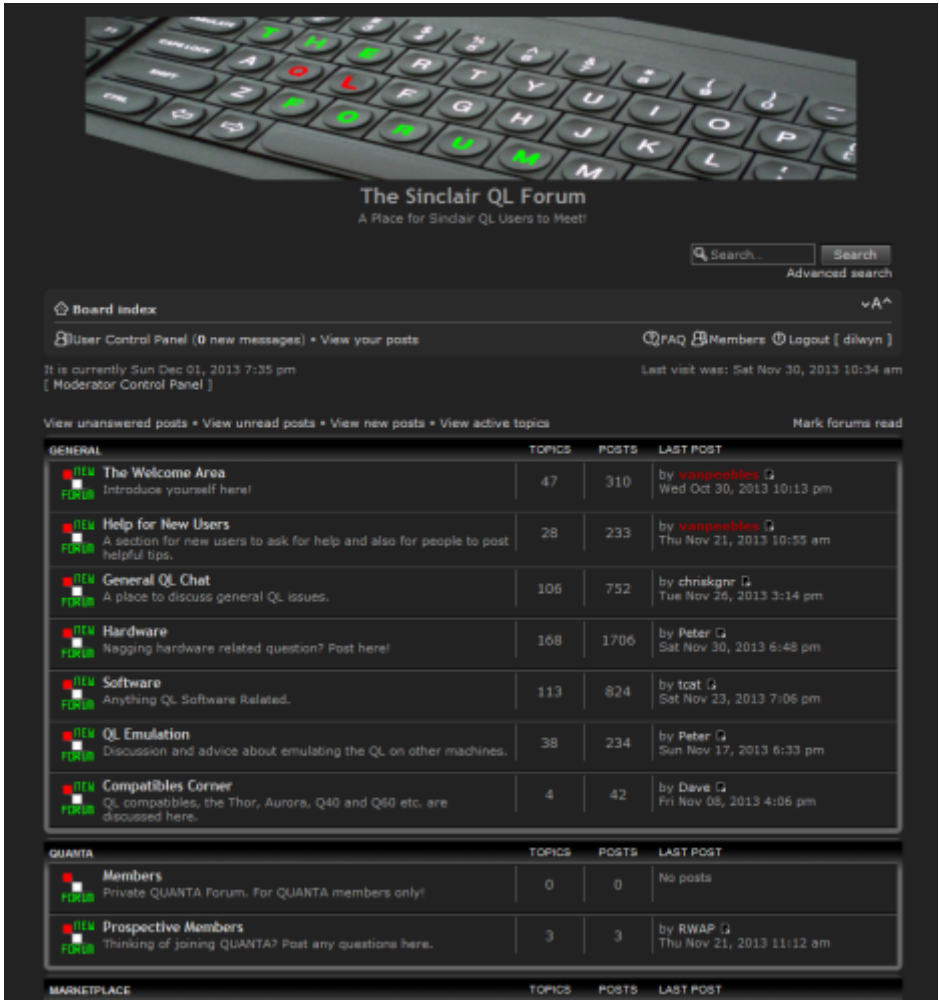
## QL Forum is 3 years old!

Mid-November saw the third birthday of QL Forum. Happy birthday to what is probably the most popular meeting place for QL enthusiasts, thanks to the efforts of Peter Scott and Rob Heaton.

At the time of writing the Forum has 193 members worldwide and subjects discussed are as diverse as ever and sometimes controversial too! Even better news is that Peter Scott, responsible for so much of the success of QL Forum, has volunteered to assist QUANTA with our own website, given that our own website has sometimes not been our best selling point at times in the past!

## QUANTA On QL Forum

Most recently, the QL Forum has added a QUANTA section, where if you are thinking of joining QUANTA, you can post questions to get answers. If you are already a member of QUANTA, a second section can be accessed, called "Private QUANTA Forum". For QUANTA members only!



*QUANTA section on QL Forum, shown at the bottom of the screen dump*

## RET\_STK

RET\_STK is a small sbasic extension by Wolfgang Lenerz to get the value on the SMSQ/E SBasic return stack. This was written in response to a help request from a user on the ql-users mailing list, who wanted help to find a method in SBASIC to find which line number called a procedure in his program, to aid debugging. The extension may be downloaded from Wolfgang's Qlstuff website at <http://www.wlenerz.com/qlstuff/>

## BMP update

Bob Spelten jr. has supplied an enhanced version of my BMP program which runs on QL systems and converts between QL and Windows BMP graphics.

In addition to a few bug fixes and use of the latest DJToolkit to fix problems when run on SMSQmulator, Bob has improved the colour conversion routines to improve the colour tone scale and generally provide better results all round. While technically a beta-release (the older version will remain available for a while just in case), Bob and his beta-tester Francois van Emelen have been using it for a while now, so it may quickly become the official release. Download it from <http://www.dilwyn.me.uk/graphics/index.html>

## **CHAIRMAN'S NOTES**

**Sarah Gilpin**

To all our members; the Committee and I wish you all a very Happy Christmas and all the best for the New Year 2014. Once again we are looking towards the Annual General Meeting 2014.

The 30<sup>th</sup> Annual General Meeting will be held on 27<sup>th</sup> April 2014 at 2.00pm at 181, Urmston Lane, Stretford, Manchester, M32 9EH.

## QUANTA Magazine

There will be no accompanying workshop as we are going to hold the AGM using telephone conferencing with an 0844 number.

Anyone who wishes to attend in person is most welcome. If they confirm that they will be here and can arrive by 12.30pm I will lay on sandwiches.

Full instructions on how to join us on the 27<sup>th</sup> April 2014 will be in the AGM booklet sent out with the Feb/March 2014 magazine. We hope that this will enable some of our overseas members to join us, as well as some members in the UK who do not like to travel. The teleconferencing system we are looking at will allow up to 50 members to ring in.

The Committee would welcome any nominations from members, either in the UK or overseas to join the Committee as we move forward into remote teleconferencing. We will try out the facilities at our Committee meeting in early February with Dilwyn and Lee joining us.

We are urgently in need of a new Treasurer/Membership Secretary as John Gilpin is resigning permanently. He did give us notice at the last AGM. The nomination form for 2014/2015 is in this magazine. All nominations should be received by the secretary Alison Southern or myself before 1<sup>st</sup> February 2014.

QL is 30 is not forgotten or abandoned, but it will not be held in April. I am aware that a number of venues have been suggested, including Cambridge, by various people on the QL-Users list. So far, other than Rich Mellor, no one has approached QUANTA with anything other than vague ideas. QUANTA is prepared to support one or more events with our presence, displays and an A & E

desk, but we do not feel that we can organise such an event at a location far away from our Committee members. We do require active participation from those making the suggestions.

One point made is that the event can be quite small in numbers and still be a success – but at what cost? We have been told that the format of the QUANTA workshops is WRONG, but no one has said what would be RIGHT, and none of us are mind readers.

This may seem as if I am having a bit of a moan – and Yes, I am. After many years working in and for voluntary organisations the formula seems to be:

Do not get involved

Criticise those that do, without any helpful suggestions

Do not support any event that is laid on, particularly if it requires any effort or expense.

Suggest that a different approach, venue or format should be used for anything, but do not actually offer to bring about this change.

A number of changes have been implemented in the last few years. The Constitution has been amended to enable e-mail committee meetings, which has reduced the committee member's expenses. This is being extended this year to include the AGM. Last year Rich Mellor was the only member who joined us electronically.

The number of members who are taking the eMag is growing each year, thereby reducing the postage expenses for everyone. I appreciate that we are unlikely to reach 100% as a number of our original members do not wish to receive their magazines that way.

In the next issue of QUANTA, we hope to bring you the third instalment from George Gwilt's update of Turbo and one from Steve Poole regarding his tinkering with SuperBASIC programming. In a recent communication he reminded me of this little ditty.

Just a reminder about GOSUB :

```
100 x=1 : GO SUB 110 : PRINT x : STOP
```

```
110 x=2 : RETurn
```

Try removing the STOP!

I will leave that with readers of QUANTA, however suffice to say, we always need articles to share amongst the fans of the QL machine and its derivatives. So don't sit there in solitude, if you have an experience, a solution or a problem that's a tough nut to crack then write something. You know where to find us. One last thing to be revealed next issue, where do you think the image below is from? A clue is 2009, electronic, on Youtube but not the QL.



**An Introduction to QL Hardware Projects (Continuing from QLToday)**

**S**ome of you may have come across my long running series of hardware projects in QLToday, sadly no longer with us. But realising that a fair few Quanta readers may not have come across my QLToday articles. I thought it would be a good idea to start with QUANTA to explain what has been in the past and also to outline what this continuing series does and equally does not do. I have been a QUANTA member for over 20 years. There was no particular reason why I originally wrote for QLToday other than, rightly or wrongly, I felt QLToday seemed to be a little more technical than QUANTA. But no more than that.

First, all my projects will work what ever your platform, from the original Black Box QL to emulators such as QPC2. I test all the projects on a basic QL, Trump Card, Gold Card and Super Gold Card equipped QL's. Also Qemulator, SMSQemulator and QPC2 emulators. I also used to test on a QXL based system until the PSU on that machine failed and took out the mother card. The reason why this is, is that in the main I only use the RS232 serial ports. There have been a couple of projects that use the printer (parallel port) so not all platforms support these projects directly.

There were alternative projects using the I2C bus which I outline below, so not all was lost on these projects. In the case of PC based systems this takes into account PC's fitted with RS232 ports on the mother cards or USB to RS232 converters. Which are available from PC stores and outlets such as Maplin. So if your PC does not have a 9 pin D-Type serial all is not lost.

**JOCHEN MERZ SOFTWARE**

Kaiser-Wilhelm-Str. 302  
47169 Duisburg, Germany

Fax +49 203 502012  
EMail: SMSQ@J-M-S.com

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Only basic soldering skills are required and be able to identify components and how to use simple components like resistors, diodes, IC's and capacitors. So there are no surface mount components to deal with. All the parts required are available from suppliers such as Maplin, Rapid Electronics, Farnell etc. No special PCB's or non standard or hard to acquire components are required.

I use either point to point connections, or in most projects strip board (Vero board) is used. So if you can follow simple circuit diagrams then you should be successful. I do not provide stripboard lay outs. The reason being is that in a lot of cases these are not complete projects, I will come back to this point.

An important point is that I do not open the Black Box QL, so the risk to your QL is minimal, not totally impossible, but unlikely. The only connection between the QL and your project is one or both of the RS232 ports. I know emulators such as QPC2 can support 8 RS232 ports. Just dealing in the minimum so all projects are open to all.

Now this brings me to another problem, the BT style connectors as used on the UK Black Box QL's. I have looked into this and you cannot get them, simple. Don't waste you time trying, they are not out there.

So, if there is interest I am prepared to write an article about how you can change the original connectors on a Black Box QL and fit standard 9 pin D-Type connector. Again with care this is a minimal risk project. Contact the editor if you are interested in such an article. The same applies to the CTRL ports as well, so these could be changed.

The basis of all these projects is to give you all some ideas that you can use in your own projects. In my case, my own projects are for modelling projects, mainly railways and radio receiver and accessory control. The types of projects I have covered in the past include I2C interface using a RS232 to I2C converter from By-Vac. This can be used to control I2C devices such as ADC (analogue to digital converters), DAC (digital to analogue converters), parallel input/output and digital potentiometers as examples.

Some projects use a PIC micro-controller. The communication between the QL and the PIC being RS232 serial. The last project in QLToday was a PIC based project to control 8 x 3 wire model servo's. These can be used for models and robots, but there are other applications as well. For example, I control the tuning and position of a rotating loop antenna using these model servo's. A PIC programmer is required, I give details of how to do this. I do NOT offer a PIC programming service.

So this is why these projects are not complete in there own right, but to enable your own ideas. After all we are all supposed to be tinkerers ! It's in the name. Hence the reason I don't give stripboard layouts since you will need to add some circuitry of your own to complete an interface to your own projects. Anyway it is all part of the fun to design your own layouts.

I do provide some example software listings, to demonstrate how to use a given interface. I keep these simple and fully commented. They are all in SBASIC.

I have no idea if my articles in QLToday were of any interest since QLToday or I never received any feedback. I also know from surveys done in the past that the number of people that could be

interested in these types of articles is likely to be very small. But you never know, I may spark something in someone.

So next time I will continue from where QLToday left off, I do not intend to repeat what has gone in the past, however I will give the references back to original articles where required or a brief résumé.

Next time I will be looking at how to expand the parallel output ports and read scanning keyboards such as the QL's own keyboard.

As to my past articles, QLToday has finished the printed magazines as well as providing the DVD's. There are no back copies available. So I may be prepared to compile my QLToday articles into a series of PDF's. Indexes of QLToday are available to download from Dilwyn Jones web site [www.dilwyn.me.uk/gen/qltoday/qltoday.html](http://www.dilwyn.me.uk/gen/qltoday/qltoday.html). So you can look these up and let me know via the QUANTA editor, any that you may be interested in.

*(We need your feedback, Ian is relying on some interest from QUANTA members to make his efforts worthwhile, we have a hungry horse here with a yearning to race so lets feed him!, Ed.)*

## **SYNCHRONISING**

**DILWYN JONES**

---

**A**s our emulators and laptops and pen drives set us ever more free to take our QLs and files with us wherever we go, one of the problems which arises is that of ensuring we have the latest copies of our files and documents on whichever QL or emulator we happen to be using at the time.

I often take a QL On A Stick with me when away, work on my QL files using QPC2 and a QXL.WIN on the USB pen drive, then have to make sure any updated files are copied onto my main QXL.WIN at home before I work on them at home.

When it's just one file, that's easy enough to remember. When it's a lot of files, it's not so easy unless you are meticulous enough to keep a detailed list of all files changed so that you can make sure you copy the most recent ones. Even then, it is easy to make a mistake.

Somewhat embarrassingly, this happened to me fairly recently with my Q-Dock utility, and it cost me quite some time to undo my mistake, which further delayed release of the program. The problem was that Q-Dock has quite a lot of files and at home I'd worked on a number of changes to the graphics before I went away for the weekend, taking a laptop with me and duly made several more changes.

When I returned, it was a couple of days before I touched the program again and of course I'd forgotten by then what changes I'd made to which files, so I decided to copy the whole lot. Unfortunately, during a "senior moment", I copied things the wrong way round and ended up with the oldest versions of many of the graphics - it took me ages to sort it all out.

So, once the mess was sorted out, it became a priority to think of a way to reduce the risk of that happening again.

Since most QL systems save a file update date value in the headers of files when they are created or updated, I thought it ought to be possible to compare dates of matching files in the

same directories on both drives and automatically copy files in the right direction to ensure the latest versions of each file are maintained across both drives.

Synchronising files like this is a common feature of modern computing with its use of mobile technology and you need to ensure that you always have the most recent copies of important files wherever you are. Our requirements are thankfully a bit simpler normally - we don't necessarily have to store files in the "cloud" and other such fairly complex procedures, just across two devices such as a desktop computer and a pen drive or mobile hard disk.

I wrote a little BASIC program which is essentially a two way copier program, which takes file update dates into account to decide whether to copy and update files. It will also create new directories if it spots that new directories have been created.

The program starts off by asking for the names of the two drives to be synchronised, followed by the name of a directory. If you specify a directory name, only that directory and sub-directories are copied. If you make a blank entry for the directory name the entire drive is scanned. A recursive directory tree routine is used for the scanning - the procedure `Extended_DIR` calls itself to scan each sub-directory as it is encountered.

The scan works two ways - it runs through the source drive first and once that's been done, the process is reversed and the second drive is scanned. Files on the source drive which don't exist on the destination drive are copied and the file update date is made the same (to prevent repeated reverse copying on the second pass with swapped drives). If a copy of a file already exists

on the destination drive, the file update dates are compared and if the file on the destination drive is older, it is overwritten with a copy of the newer version of the file, and the file update dates are made the same.

The second call to the Extended\_DIR procedure merely reverses the process - once files have been checked and copied from source to destination, we need to repeat the process the other way to ensure that if there are more recent versions of some files on the target drive, they can be updated to the other drive too, so the process is fully bi-directional and it doesn't really matter which drive name you enter first..

The program uses Toolkit 2 extensions such as FUPDT and SET\_FUPDT, although these are built into SBASIC on SMSQ/E systems and provided by the toolkit software on many disk drives, so the program should work on almost any system which has Toolkit 2 extensions and level 2 directories.

```
100 REMark Synchronise two drives/directories
110 CLS : CLS #0
120 INPUT #0,'Synchronise drive > ';dr$
130 INPUT #0,'With drive > ';tdr$
140 INPUT #0,'Directory (leave blank for all of
drive) > ';dir$
150 IF LEN(dir$) > 0 THEN
160   IF dir$(LEN(dir$)) <> '_' THEN dir$ = dir$
```

& '\_'

170 END IF

180 :

190 PRINT'Synchronising one way...'\

200 synced = 0 : REMark how many files copied

210 Extended\_DIR dr\$, tdr\$, dir\$

220 PRINT \ 'Synchronising the other way...'\

230 Extended\_DIR tdr\$, dr\$, dir\$

240 PRINT synced;' files synchronised in total.'

250 :

260 STOP

270 :

280 DEFine PROCedure Extended\_DIR

(fdrive\$, tdrive\$, direc\$)

290 LOCAL loop, ch, d\$, fp, n\$

300 ch = FOP\_DIR (fdrive\$&direc\$) : REMark open  
channel to directory

310 IF ch < 0 THEN RETURN : REMark unable to  
open directory

320 fp = 14 : REMark file position in directory

# QUANTA Magazine

for filename

330 REPEAT loop

340 BGET #ch\fp : IF EOF(#ch) THEN CLOSE

#ch : EXIT loop

350 GET #ch,d\$ : REMARK get directory entry

name

360 IF LEN(d\$) > 0 THEN

370 REMARK a directory entry length of 0

may be a deleted file

380 BGET #ch\fp-9: REMARK file type byte

390 IF CODE(INKEY\$(#ch)) = 255 THEN

400 REMARK Directory - may need to create

this in destination

410 IF FTEST(tdrive\$&d\$) <> 0 THEN

420 PRINT ' Creating ';d\$;'...' :

MAKE\_DIR tdrive\$&d\$

430 END IF

440 REMARK follow the directory tree

450 Extended\_DIR fdrive\$,tdrive\$,d\$ :

REMARK enter directory



# QUANTA Magazine

```
460         ELSE

470             REMark File - does it exist on
target?

480             BGET #ch\fp+38 : updt1 = GET_LONG
(#ch)

490             IF FTEST(tdrive$&d$) = -7 THEN

500                 REMark file does not exist on
destinaton, so copy

510                 PRINT'Copying ' ;d$;'...' : COPY
fdrive$ & d$ TO tdrive$ & d$

520                 REMark ensure both copies have same
update date

530                 SET_FUPDT \ tdrive$&d$,updt1

540                 synced = synced+1

550             ELSE

560                 REMark Exists, but only copy if
file on destination is older

570                 updt2 = FUPDT( \ t$&d$)

580                 IF updt2 < updt1 THEN

590                     REMark destination is older, so
```

# QUANTA Magazine

replace with source copy

```
600          PRINT 'Copying ' ; d$ ; '...' : COPY_O
```

```
fdrive$&d$ TO tdrive$&d$
```

```
610          REMark ensure both copies have  
same update date
```

```
620          SET_FUPDT \ tdrive$&d$,updt1
```

```
630          synced = synced+1
```

```
640          END IF
```

```
650          END IF
```

```
660          END IF
```

```
670          END IF
```

```
680          fp = fp + 64
```

```
690          END REPEAT loop
```

```
700          END DEFINE Extended_DIR
```

```
710 :
```

```
720          DEFINE PROCEDURE Sa
```

```
730          SAVE win1_hdutils_synchronise_bas
```

```
740          QSAVE win1_hdutils_synchronise
```

```
750          END DEFINE Sa
```

```
760 :
```

**1: Nostalgia**

**1** 984; a year with all sorts of significance, thanks largely to George Orwell and his doom-laden portents of the future. That year, commentators across the UK were reporting on the prescience of his vision, with the Cold War showing few signs of ending, and traumas such as the UK Miners' Strike reflecting a brutal, de-humanised post-industrial society that was apparently heading towards meltdown.

All this largely passed me by, because I was 11 years old, and such thoughts were far from my mind. I read the book 1984 that year, like many others, but didn't really enjoy it, and most of the geopolitical and social relevance of Orwell's masterpiece was lost on me. Anyway, I had seen a vision of the future that was far more interesting: a quantum leap in computing led by what was a rare ray of light for British industry.

(Sir) Clive Sinclair had already astounded us all with the launch of the ZX81 and ZX Spectrum computers, offering this wonderful digital future in which everybody would have access to a computer at home. For Christmas in 1983, my older brother and I had been lucky enough to receive a 48k ZX Spectrum from our parents, and we had both spent the following months playing Atic Atac, Manic Miner and Ant Attack, and no doubt trading illicit tape to tape copies of many other games in the school playground.

However, at its height, the ZX Spectrum was suddenly eclipsed in my eyes with the media frenzy over launch of the Sinclair QL, with that futuristic look, a whopping 128k of memory and built-in Microdrives.

Okay, as we all know, things didn't really go that well for the QL at or immediately after the January 1984 launch, but I was still gutted when in early 1985 my brother, who was heading towards a career as an electronic engineer, decided that he would buy a BBC Micro as a 'serious' computer, rather than a QL. I don't think I had ever seen a QL in the flesh, and I was only (slightly) mollified with a case/keyboard upgrade of my Spectrum to a Spectrum + which made it look a bit like the futuristic QL.

However, it just wasn't the same, and by 1987 my interest in computers had waned significantly, replaced with that natural development of interests towards music and girls. When my Spectrum developed a fault, it was consigned to my parents loft, suffering the same fate as so many other 8-bit home computers of the time.

To add insult to injury, when I went off to university in 1991, I took my brother's now unwanted BBC Micro, which served well as a word-processor throughout my degree (as long as documents were shorter than about 1500 words!). By then I had stopped thinking about Spectrums, QLs or anything of that type, as the culture of PCs and Apple Macs spread across the civilised world. I grew up, got a job, wife and family, mortgage and all those other things that seem to just happen without you really noticing.

Fast forward to Spring 2013, and I was asked by my now ageing parents to help clear their loft, as they were worried that they might not be in a position to get up there themselves for much longer, and that there was an awful lot of 'junk' up there from mine and my brother's childhood that needed clearing. Among the boxes of comics, Lego and train sets, I found a box containing all the bits of my old ZX Spectrum.

Although it was broken when it was put away, I had a nostalgic flashback to all those hours in my bedroom spent typing in simple BASIC programs and playing games so much more satisfying than anything I have seen on consoles, hand-helds or the computers that surround my work and home life. The box came back home with me in the car.

This, or a similar story, is probably very familiar to other members of QUANTA, especially for those of us who are now in their 40's, and perhaps hankering over aspects of a youth that seems so long ago, but also in many ways is still so recent. Anyway, after a bit of searching online, a little bit of reading, and of course the very useful World of Spectrum web-pages and forums, I got my original Spectrum back up and running (it was a dodgy Z80 processor that had gone, and took about 5 minutes to replace), and the hooks of retro-computing were well and truly under my skin!

Lots of time on eBay, probably more money spent on stuff than I would care to admit to my wife, and I had a number of different Spectrums all working, with lots of games I had played or wanted in the past, all neatly installed in my man-cave upstairs in the loft. I even tried a bit of BASIC programming, but too many years of using a standard keyboard meant that all the one-key keywords just didn't feel right, and besides, the Spectrum was, and remains, primarily a gaming machine in my nostalgic eyes.

A chance discussion with a colleague at work got me thinking again; as part of my job, I have been trying to develop my skills in using some software called MATLAB. This is a massive and very powerful application allowing the development of sophisticated models, programs and scripts, but it is quite a steep learning curve, and certainly quite a daunting package to learn from scratch.

My colleague and I were discussing this issue, and he said something on the lines of 'why not try to learn the core elements of programming on a simpler machine, like a Raspberry Pi?'. But, because he is an IT technician around the same age as I, he then added, '... or, of course you could always dig out an old home computer from the pre-PC era, and start with BASIC or Forth, because the basic principles are all the same...'. **BANG!**

What a great idea! Suddenly, lots of little threads starting joining up in my mind: I returned to being that wide-eyed 11-year old, thinking longingly about the QL, but this time having the means (i.e. an income, rather than just pester-power) and perhaps even a vaguely plausible reason to justify owning one to explain to my wife. Then, reality hit again: I had never even seen a QL, which of course reflected that it was never the great commercial success it could have been.

The purchase of Sinclair by Amstrad also killed-off the QL in 1986, so there probably wouldn't be that many about, certainly compared to the Spectrum. Was there a retro-community supporting and preserving the QL? And, to be honest, I was also wondering whether, given its lack of success, was the QL actually any good?

In my various forays on the web to find stuff to repair and enhance my ZX Spectrum collection, I had come across Rich Mellor's RWAP website, and in August 2013 finally looked beyond the Spectrum pages to discover that yes, there was a community, and that QLs were still in existence, and, even better, with the benefit of hindsight, they were actually considered to be rather good and innovative.

That decided me, and I promptly became the owner of a Sinclair QL, some 30 years after first dreaming of having one. I have started appearing on and posting to the QL Forum, and have now been persuaded to join QUANTA, with the promise that despite the rather un-informative website, I would discover a whole new community of QL users and tinkerers out there who could offer help, support and software.

That brings me here. I am a self-confessed novice in the use of, and application of the Sinclair QL. I am not, and never was, a computer scientist. As a piece of design history, I love the QL: to me it looks like the future it was once purported to be: I love the whole of the concept of the QL, and have even enjoyed the frustrations associated with Microdrives. But, to be honest, I have no idea where to start; I know that I want to become competent in SuperBASIC, to vaguely address my rationale of becoming a better programmer in MATLAB, but I also want to do something concrete, tangible and that reflects the QL as a computer in its own right.

So, this brings me to the end of this little historical narrative: I plan to write again, hopefully relatively regularly, to share my thoughts and experiences in learning and working with the QL. Having looked at my first QUANTA Magazine (I can't say that I have really read it, as such), I can see I have a very long way to go before much of the contents make a great deal of sense to me.

Perhaps though I can offer something of an alternative to (probably extremely useful, once I understand them) technical articles by the retro-technocrats within QUANTA . This may serve as a gentle reminder that some of us returning to (or discovering) the QL are not familiar with the nuances and complexities of the hardware and software, or SuperBASIC.

Perhaps this might provide some encouragement to others out there who have dipped their toes back into the past, and are exploring retro-computers, without really knowing what they are doing, or why. Any comments, suggestions and criticisms are thoroughly welcome.

By the way, 1984 is now one of my favourite books, and in some ways I wish I had 'got it' way back then...

## ACCURATE LOOPING

**STEVE POOLE**

I have rewritten a program on geodisics which appeared in a computer magazine. The author stated that his program would eventually fail because of FOR NEXT LOOP error drift. In QUANTA Volume 18 Issue 9 of October 2001, I wrote a

## RWAP Software

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**RWAP Software**  
3 Dale View Court, Fulford, Stoke-on-Trent  
Staffordshire ST11 9BA  
Tel: 01782 398143  
Email: [rich@rwapservices.co.uk](mailto:rich@rwapservices.co.uk)

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Why a bad keyboard membrane could change your whole career strategy!

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## QUANTA Magazine

program called 'Precision of FOR NEXT LOOPS', showing how to overcome this problem.

As this subject is very important, here is the latest demo showing you how to scale for loops to make them as accurate as possible, (for most purposes, dead accurate).

But not accurate enough for my latest code prototypes, but that is another matter...

```
100 ::
110 REMark Accurate_Loops_bas, by S.Poole,
v12sept2001, v7sept2013
120 :
130 OPEN#3,con_16: WINDOW#3,256,206,256,0:
PAPER#3,2: INK#3,7: CLS#3
140 start=-32767: end_+=32767:
step_='+.333333333': print_=0
150 d1=DATE: IF d1=DATE: GO TO 150
160 final=SCALED_LOOP(start,end_, step_)
170 d2=date_d1: PRINT#3
180 d3=DATE: IF d3=DATE: GO TO 180
190 :
200 FOR loop=start TO end_ STEP step_
```

## QUANTA Magazine

```
210     IF print_ : AT#3,1,1: PRINT#3,loop !!
220 END FOR loop: d4=DATE-d3-1
230 :
240 PRINT#3\\ 'NEW' !final !! d2 & ' secs' \\
'OLD' ! loop !! d4 & ' secs'
250 PRINT#3,\\ 'Press any key to STOP' :
i$=INKEY$(#1,-1): CLOSE#3
260 ::
270 DEFine FuNction SCALED_LOOP(first,last,stp)
280 LOCal range,divisions,loop,next_
290     range=last-first: divisions=range/stp
300     PRINT#3,divisions !! 'divisions' \\
range !! 'range' \\
310 :
320 FOR loop=0 TO divisions
330     next_=first+loop*stp
340     IF print_ : AT#3,1,1: PRINT#3,next_
350 END FOR loop: RETurn next_
360 END DEFine
```

**M**embers wishing to submit helpline requests via email can use the email address [helpline@quanta.org.uk](mailto:helpline@quanta.org.uk) or if you prefer to use traditional post, please send the helpline request to me via the address printed inside the front cover of the Magazine.

Obviously, we cannot guarantee to answer every query we receive, but we will do our best! Where we have been unable to answer the queries, we may print the help request as an open request in the Magazine to ask if any of the readers can come up with a solution. And, of course, if readers feel that they have a better solution than we came up with, or would like to correct any errors we make, please write to us!

### **Q-emuLator and Zip files**

This one proved to be a bit of a headache to document, although it was relatively straightforward for me as a relatively experienced QL user to sort out. It came about when Rich Mellor sent me a few zip files he had created on Q-emuLator, which I could not for the life of me figure out how to decode.

After a while it became obvious that not all zip files are equal and that there would need to be different methods of handling them depending on how they had been created and what you hadn't been told by the sender.

First of all, let's be clear that files zipped on a QL with a QL version of Zip are not the same as those created by, say, Windows. The QL version puts extra fields in the archives to store the file

headers. Copy a QL executable program to Windows, zip it up and bingo, it's lost its executable file header and will never again start with an EXEC command – “bad parameter” will be the norm when you try.

That said, some emulators store QL executables in a native file format which is a bit different to standard QL file format. They add little bits of information to the file to make up for the missing bits lost by non-QL format media such as Windows, Linux and Mac formats. Ironically, copy these unmodified to a QL and these won't run either. Note that this generally only applies to executable files, data files can by and large be moved between QL and non-QL media without too much harm where the file is not physically modified.

So we need to identify the various ways in which zip files are created and in this article we will concentrate on QemuLator. Most of the examples will be Windows format, as that's what I use. And you need to get the sender of these files to tell you what they are and how they have been created for you to be able to successfully decode them.

**Zipped QemuLator native file format folders** – these are generally zipped on the host operating system, contain all the QL files from that directory on the sender's copy of QemuLator and will be in non-QL zip format created by software such as Winzip, 7-zip or even ordinary Windows zipped folders.

They store the QemuLator file folders in non-QL format and need to be unzipped in the standard way for Windows, Linux or Mac systems. Once unzipped, attach them as a 'drive' to one of QemuLator's eight drive slots by right clicking on one of them and

selecting the Attach Directory command from the menu.



**Standard QDOS Zipped Files** – these should have no emulator-specific data inside, so you should be able to read files from them just by attaching them directly to a drive using the ‘ZIP/QLPAK Archive’ command from the menu above. This would be the case when downloading a zipped QL software package from my website, for example. After downloading the file to a normal Windows folder on the hard disk, attach a QemuLator drive slot direct to the zipped file and simply do a DIR MDV1\_ (if attached to slot 1) to see what’s in there. This won’t let you save additional files to the zip file, but it’s the quickest and simplest way to view and extract files in a QDOS zip file.

**Zipped individual files from a QemuLator folder** – these will be

QL files, but stored in QemuLator format, that is, the executable files will be modified in line with the QemuLator format, adding extra information to a QL file to ensure it has its headers preserved while stored on a non-QL format drive such as a QemuLator native file format folder on a Windows drive. To unzip them just use a Windows program to unzip them directly into a QemuLator folder on the host OS drive.

### **Converting between QemuLator and standard QL file formats**

Rule of thumb – to convert from QemuLator modified QL files to standard QL files, copy them from a native file format folder to a non-native format device such as a ramdisk or QL formatted floppy disk. The copying process to these devices removes any QemuLator specific file modifications and cleans them out back to standard QL format.

### **Zippping Files In QemuLator**

If the files are in standard QL formats, simply use Jonathan Hudson's QDOS Zip program, or Archivers Control Panel, or my Zip Manager running in QDOS or SMSQ/E on QemuLator. Once in a QDOS format zip, the job headers are safely preserved for you to store the zip file on a hard disk, CD, website, email, etc as long as you unzip them using the corresponding unzip program later.

To send a whole QemuLator native format directory of files to someone else using QemuLator, just zip up the entire folder in Windows and send that, remembering to tell the recipient what you did, so that they can just unzip it in Windows and attach it to a QemuLator drive slot.

To send files from QemuLator to a QL user, or user of another emulator, ensure the files are on a QL format device such as

RAMdisc or QDOS floppy disk first before zipping them – this helps prevent QemuLator specific headers creeping in which will render the file unstable on a standard QL.

If you make use of a QXL.WIN system with QemuLator, the same rules do not apply. These store the QL files in a standard format and so do not need to be copied to ramdisk or floppy disk to zip up. In summary, without a good understanding of what QemuLator does to QL executable files, it can be hard to follow what's going on, but with a bit of knowledge of what's happening, and most importantly the sender and recipient telling each other what's going on, it's fairly easy to work out what's going on.

*(If you have any comments on this or any other article contact the editor@quanta.org.uk, Ed.)*

## WIMPS

LEE PRIVETT

---

**N**o, not the people that got bullied at school, the WIMP I am referring to, is the acronym 'Windows, Icons Mice & Pointer system' and specifically icons. Current operating systems such as Microsoft Windows 8 and IOS 7, along with packages such as Microsoft Office and Adobe Suite of programs utilise graphical interfaces as do previous versions. What is slightly different about the current thinking around design and aesthetic is the distinct moving away from the skeuomorphism approach to software icons.

Now for those of you who have never heard of skeuomorphism before and I include myself in this, there is a fairly good article in Wikipedia that explains all the concepts, a brief extract is shown below.

*“A more extreme example is found in many music synthesis and audio processing software packages, which closely emulate physical musical instruments and audio equipment. Functional input controls like knobs, buttons, switches, and sliders are often careful duplicates of those found on the original physical device being emulated. Some software even includes graphical elements of the original design that serve no user interface function, such as handles, screws, and ventilation holes.”*

<http://en.wikipedia.org/wiki/Skeuomorph>

The article goes on to say that skeuomorphic elements need not be visual and cite the ever popular camera phone with a mechanical shutter sound, this is skeuomorphism. Transport controls have long been used in this way, such play, fast forward and rewind etc. These are now appearing in applications instead of 3D buttons, as minimalist graphics, cleaner and flatter. iOS 7 for example uses that shown below.



However I digress, and as stated the move is currently away from this area. So where you would have an icon representing a program such as YouTube (on the left)



Fairly simple design, except the Tube is round like a television tube, graduated in tone and highlighted to give the effect of curved glass. The new icon (on the right) is a flatter simpler



design. There are many other examples such as Photoshop Image manipulation software, in order of age here are some of the icons used. The last one is as used for the Creative Suite CS6 and is simpler and flatter in design.



“So what!” I hear you ask? Well my point is two fold. The first is that I often change the icons on both PC and MAC systems to suit my mood, the emulators I have installed (as well as other software) have icons designed some while ago and rarely change (even with revisions) so I change them. Currently the flatter approach has been incorporated in my programs and two such icons below are for the Q-emulator and QPC2 respectively. I make no apologies for the obvious style similarities either.



The second point and perhaps the most important is that this flatter simpler design in graphical interface is very easily achievable even at the most basic settings of the original QL and its emulators. Not only is retro currently cool but the simpler flatter icon style graphic is ‘very now’. Coding your own graphics in your QL programs in this way will not only be easy to do, but with the current generation it will be ‘cool’.

So what are you waiting for...

## SUBGROUP MEETINGS

**S**ubgroup meetings are where QUANTA members and non-QUANTA members get together to discuss, tinker and explore all things QL related. As we are now approaching the beginning of Winter (ha!) the bank holiday may provide some more sunshine and much needed warmth. This might be a good opportunity to dust off those cobwebs and visit your local sub-group. There will always be plenty to talk about and a fresh face (new or old) is always welcome. If there is not a sub-group near you why not hold one yourself? Contact the chairman on how to go about it, details on our contacts page (pg. 2). The subgroup list is currently two pages long with the sad absence of the West Midlands QL User Group again our best wishes go out to all and especially a continued recovery to Mike Bedford-White.

## QUANTA DORSET SUBGROUP – Dorset

**M**eetings are held, on the second Sunday of each month between 2.00pm and 5.00pm. For location please contact: John Mason - 01425 275894

## LONDON QL AND QUANTA GROUP

**M**eetings are held in the School Room, which is the basement of the Borough Welsh Congregational Chapel, 90, Southwark Bridge Road, London SE1. This is almost opposite the junction with Marshalsea Road, at the other end of which, 5 minutes walk away, is the Borough Underground Station. Free parking is easily available in Southwark Bridge Road for road users, Cyclists are welcome. Members currently each pay a subscription of £40 per year towards the cost of the hire of the hall and a small additional charge is made for tea/coffee - biscuits are then provided free.

Please bring your QL equipment if possible, all types welcome, e.g., PC portable running emulators. The Group has some systems stored at the venue for its use. In addition, there are lots of donated second user equipment, books, magazines, etc., available for purchase. Time: 2.00 pm. to 5.00 pm., on the second Sunday of the month. No meetings are

## QUANTA Magazine

held in December/January - winter break, or July/August –the summer break, giving 8 meetings a year. Malcolm Cadman 020 8691 5780 or email: [QL@mcad.demon.co.uk](mailto:QL@mcad.demon.co.uk)

### SOLENT SUBGROUP

**M**eetings are at 'Sarisbury Green Parish Rooms' ([http://sgpr.org.uk/?page\\_id=28](http://sgpr.org.uk/?page_id=28)) On the first Saturday each month from 1PM to 5PM. Contact Graham Evans 023 8040 3350 or send an email: [graham@grayfire.f9.co.uk](mailto:graham@grayfire.f9.co.uk)

### NEMQLUG - NORTH EAST MANCHESTER QL USER GROUP

**M**eetings are held at 181, Urmston Lane, Stretford, Manchester. M32 9EH (Near Junction 7 of M60 Motorway, which was Junction 7 M63 Motorway). Our informal meetings start at 7 pm. and finish at 11 pm. All welcome to our meetings which are held on the last Thursday of each month (except December). Contact John/ Sarah Gilpin 0161 865 2872 for further details. or by email: [thegilpins@btinternet.com](mailto:thegilpins@btinternet.com)

### SCOTTISH QL USERS GROUP

**S**QLUG meets at George Gwilt's home every second Sunday in the month. Please contact George Gwilt before coming, to get the location by email: [Gdqqler@gmail.com](mailto:Gdqqler@gmail.com)

### SURREY QUANTA SUBGROUP (SQSG)

**T**he group is currently trying other venues in the Leatherhead - Epsom area. If you plan to attend but do not get our emails, please phone or email Ken Bain for the latest location. Meetings are 8.00 to 10.00 pm on a Wednesday, hopefully last of each month (none in December), but this can vary. Contact Ken Bain 01932 347432 (to midnight), alternative email: [kenb@bcs.org.uk](mailto:kenb@bcs.org.uk)

### SUSSEX QL USER GROUP

**C**urrently without a meeting place, anyone interested should contact Roy Wood 01273 430501 or email: [gbranch@gbranch.demon.co.uk](mailto:gbranch@gbranch.demon.co.uk) or Keith Mitchell - 01903 742263.

# The online QL community



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[www.qlforum.co.uk](http://www.qlforum.co.uk)